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Intended for principals of regular schools, the bulletin gives information for planning an appropriate educational experience for the visually handicapped child. Definition and identification of the visually handicapped child and the impact of a visual impairment on the child are discussed. Two types of educational programs, both residential and day schools are reviewed. Guidelines for selection, placement, and integration of the visually handicapped child into the regular classroom are suggested; children with additional disabilities are considered, and likely local, state, and national resources are mentioned. Chapters are followed by references or suggested supplementary readings. There are photographic illustrations, and two appendixes list organizations and give addresses for the directors of the regional Special Education Instructional Materials Centers. (LE)

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The Principal Works with the Visually Impaired

Geraldine T. Scholl

THE COUNCIL FOR EXCEPTIONAL CHILDREN, NEA

PROCESS WITH MICROFICHE AND PUBLISHER'S PRICES. MICRO-FICHE REPRODUCTION ONLY.

The Principal Works with the Visually Impaired

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Foreword

There is increasing awareness among educators that the handicapped are more like than unlike the normal, and, further, that the differences are often not so great as to warrant an educational program entirely separate from the mainstream. Consequently, more and more handicapped children are enrolled in public and private schools for so called normal children. This trend toward integration of the handicapped with the nonhandicapped may be attributed to several factors. Society is realizing that regardless of color, or creed, or disability, every individual has a right to those educational experiences that will enable him to participate fully with his peer group, to reach his maximum potential, and to become a contributing member of society. Therefore, the handicapped, together with other minority groups, are being provided such an integrated educational experience. In addition, special educators are aware that preparation for living in a nonhandicapped adult society involves living and learning in a "normal" child society.

Recognizing this trend, The Council for Exceptional Children has initiated a series of bulletins prepared for the principal who may have a special education class or who may have a handicapped child on an itinerant program enrolled in a regular class in his building. This is the first of the series. Future "principal series" publications will be concerned with the gifted, the mentally retarded, the physically handicapped, and the emotionally disturbed.

Each bulletin is designed to present relevant information about a particular disability that may assist the principal with little or no background in special educa-

tion to plan an appropriate educational experience for a child with that disability. This pamphlet discusses visual impairments and their impact on growth and development. Suggestions regarding educational programing are also included.

It is hoped that this series of publications will assist principals in working with regular teachers to understand the needs of exceptional children and to provide for them the best possible educational program.

Acknowledgments

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1 Introduction

Visual impairments are found in a relatively small number of children compared with other types of disabilities which require special education. Estimates of the prevalence of school age children who are legally blind range from 37 to 59 per 100,000 in the age group from five to nineteen (US Public Health Service, 1965; Hatfield, 1963). This legally blind group would include most of those whose disability is so severe that it is easily identified through observation. However, a larger number of children with some degree of visual impairment may not be so readily identified. The National Society for the Prevention of Blindness (1965) estimates that there is one child in 500 in the school age population whose best corrected vision is 20/70 or less in his better eye. A child with this degree of visual impairment (20/70) usually requires some assistance to enable him to gain maximum benefit from his school experience.

Partly as a result of the small number of visually impaired children found in schools, principals and regular teachers usually have limited knowledge and experience with them. They frequently are reluctant to include such children in activities of a regular class. An analysis of the needs of these children, their capacities and limitations, indicates that they do represent a group among the handicapped who can take their place beside their sighted peers in a regular classroom with a minimum of difficulty, since they present few special methodological problems. In most instances these children can participate in the oral activities of the school day with no difficulty; their written communication can be accomplished through the use of the braillewriter

and/or the regular typewriter. Since a visual disability is not necessarily accompanied by retardation in social growth and development, these children can participate fully in the usual school social activities.

Educating the visually impaired child with the normal child has many advantages. The community does not forget him, and he grows into adulthood in a setting within the community. He learns to live and work in a normal society; he maintains continuing contact with the real world. By being educated with the so called normal child, he learns to assess and to evaluate his abilities more realistically. He learns to recognize his disability for what it is and to live within its limitations. The placement of the child in a community school helps him remain an integral part of the family in close contact with parents and siblings and included in family activities. Furthermore, this educational plan benefits the normal child by helping him learn to accept those who are different, recognizing their capabilities rather than their disabilities.

The purpose of this publication is to describe some of the characteristics of the visually impaired and to suggest guidelines for their integration into the mainstream of the school. Not all visually impaired children are the same, since differences exist among them just as they exist among any group of so called normal children. Therefore, the general principles and suggestions will need to be modified and adapted to meet the needs of any particular child, as well as to accommodate to the particular school setting and program. In general, the focus is on the visually impaired child without additional disabilities, although Chapter 7 presents briefly some suggestions for those visually impaired who have other disabilities.

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United States Public Health Service. *1963 statistical report: an-*

Suggested Supplementary Readings

nual tabulations of the model reporting area for blindness statistics. Washington: US Government Printing Office, 1965.

Ashcroft, S. C. Blind and partially seeing children. In L. M. Dunn (Editor), *Exceptional children in the schools.* New York: Holt, Rinehart and Winston, 1963. Pp. 413-461.

Scholl, Geraldine T. The education of children with visual impairments. In W. M. Cruickshank and G. O. Johnson (Editors), *Education of exceptional children and youth.* Englewood Cliffs, N.J.: Prentice-Hall, 1967. Pp. 287-342.

Presents an overview of the education of the visually impaired for teachers who have no previous background in special education.

2 Who Is Visually Impaired?

Definition

In the past, children with visual impairments were placed in special education programs on the basis of visual acuity as determined by an ophthalmological examination. Children classified as legally blind were instructed through auditory and tactile media in special classes for the blind. Those whose best corrected visual acuity was better than 20/200 in the better eye were instructed primarily through visual media in special classes labeled by a variety of terms: sight saving, sight conservation, partially seeing. Over the years, however, educators discovered that many children classified as legally blind did have sufficient vision to read print and could learn in whole or in part through visual media. Since visual materials were not usually available in special rooms for the blind, these borderline children were often deprived of the opportunity to make maximum use of their vision. Current programs, therefore, tend to include both blind and partially seeing children so that both groups have access to all types of materials.

Another factor contributing to the decline in using the legal definition of blindness as a criterion for the selection of the mode of instruction is the changing philosophy which is moving away from a conservation of vision or sight saving approach toward emphasis on increasing visual ability by its wise use in a good visual environment. This change in emphasis encourages the severely visually impaired child to make maximum use of whatever residual vision he possesses. The decision regarding educational placement and the determination of which media of instruction should be employed are now commonly made by the educator, using the ophthalmological report as a guide. Further,

the increasing opportunities being provided visually impaired children to participate in the regular school program probably reflect a growing recognition that the educational needs of these children are more related to materials than methodology. Provided with instruction in utilizing media such as braille, large type, and recordings that substitute for visual materials, and with special equipment such as low vision aids which enable him to use print materials, the visually impaired child without other disabilities can usually participate in most school curriculum activities. Such educational programing places the emphasis on his capacities rather than his limitations and recognizes that an impairment need not become a disability or a handicap.

The question posed in the title of this chapter cannot be answered adequately unless the terms impairment, disability, and handicapped are defined since there are differences in meaning which become significant when educators attempt to identify and to plan effectively programs for the educational needs of atypical children. The definitions that follow are adapted from those utilized in rehabilitation (Riviere, 1962).

An *impairment* is any deviation from the normal which results in defective function, structure, organization, or development of any part of the body. A visual impairment is identified and defined by the medical profession; further, the medical profession is responsible for any remediation of the impairment. Following maximum medical remediation, an impairment becomes more or less fixed and permanent.

An impaired individual becomes *disabled* when his impairment prevents him from functioning in a particular situation. A person with a visual impairment becomes disabled when his environment requires visual performance which is impossible for him. Therefore, an individual may or may not be considered visually disabled under different circumstances. The definition of disability in children is usually in relationship to performance in school activities. However, school curriculum activities require varying degrees of

visual ability and consequently the determination of disability is related to the activity involved. For example, visual ability is not required when a child listens to a story read by the teacher; however, it is required when he reads a story in print by himself. Therefore, the varying visual requirements of school curriculum activities should be assessed in relationship to the child's visual ability and special educational services provided when his level of ability falls below that required by the particular activity.

A *handicap* is the disadvantage imposed by the impairment or disability on the individual as he functions in his environment. A handicap is psychosocial in origin and usually results from limitations imposed on the individual by himself or by others in his environment.

An impaired individual need not be disabled or handicapped but may be either or both. The objective of an educational program for visually impaired children is to reduce disabling and handicapping effects, thereby enabling him to function to his maximum level of efficiency. To realize this objective, educators must study and analyze school curriculum activities for their varying visual ability requirements and, further, encourage participation up to the level of the child's visual ability. For some activities, such as listening to stories or music, full participation on a par with sighted peers is possible; for others, such as reading, substitute media are necessary. Following this procedure in programing for visually impaired children places the emphasis on capacities rather than on limitations. The disabling effects of the impairment may be reduced by providing materials that substitute for those which cannot be utilized because of the limited visual ability. The handicapping effects of the impairment can be prevented by providing an emotionally healthy environment and by encouraging maximum development of abilities.

To summarize, special education should be provided for visually impaired children when their impairment prevents full participation in regular school curriculum

activities. Participation in as many activities as possible up to the level of the child's visual ability should be encouraged; and for those activities wherein he is visually disabled, instruction and utilization of substitute materials should be provided. Adopting such an educationally based definition for eligibility will emphasize the similarity between the visually impaired child and the normal child.

Identification

The identification of the child with severely impaired vision will most often be made early in his childhood, and maximum medical remediation will usually be effected prior to his entrance in school. The child whose vision is less defective may remain unidentified until sometime after he begins school, when he encounters difficulty in learning because he cannot see sufficiently to participate fully in the visual activities required in school. Teachers and principals at all grade levels should therefore be aware of the signs of possible eye problems since eye defects may develop at any time during the lifetime of an individual.

The National Society for the Prevention of Blindness (1965) lists these behavior signs as significant in manifesting eye defects:

1. Attempts to brush away blur, rubs eyes excessively, frowns.
2. Shuts or covers one eye, tilts head or thrusts it forward when looking at near or distant objects.
3. Has difficulty in reading or in other work requiring close use of eyes.
4. Blinks more than usual, cries often, or is irritable when doing close work.
5. Stumbles or trips over small objects.
6. Holds books or small objects close to eyes.
7. Is unable to participate in games requiring distance vision.
8. Is unduly sensitive to light.
9. Has red rimmed, encrusted, or swollen eyelids; recurring sties; inflamed or watery eyes; crossed eyes.

10. Complains that he cannot see well; that he experiences dizziness, headaches, or nausea following close eye work; that he has blurred or double vision.

Children who consistently manifest any of the above symptoms should be referred for a medical eye examination. In some school systems the school nurse may administer one of the commonly employed vision screening examinations for identifying visual acuity, and may refer the child for a complete examination when deviations are noted. Such screening examinations are not infallible, however, and many visual impairments remain undetected. In those school systems which do not employ a school nurse, the principal may refer the child to the city or county health department for screening. The child with a visual acuity defect detected during the screening procedure should be referred to an ophthalmologist for a complete eye examination and recommendations for remediation. A list of qualified specialists is usually available from state, county, or local medical societies or health departments. Local service clubs will often defray the costs of such examinations where parents are unable to pay.

The Physician's Report

The report from the examining ophthalmologist will usually contain the following information: the diagnosis and etiology of the condition, the prognosis, and the degree and kind of visual impairment. In addition, if information concerning the age at onset and type of onset is not included in the eye examination report, it should be obtained from the child's parents. Each of the above mentioned facts concerning the visual impairment is relevant in order to understand the child and to plan an appropriate educational program for him.

The *diagnosis* identifies the condition and may give the teacher valuable clues for understanding behavior and assessing the influence of the eye condition on the early development of the child. For example, a diagnosis of buphthalmus (congenital glaucoma) may mean that

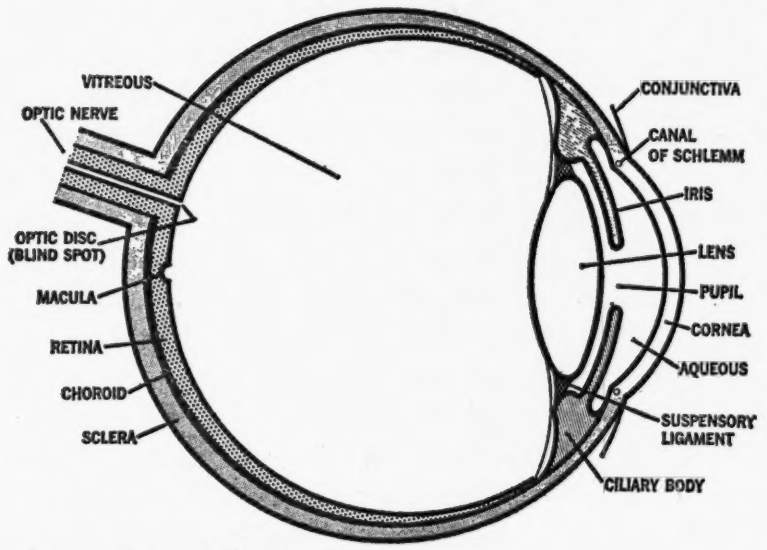

Figure 1 *Crosssection of the Eye*

The eye is one of the most complicated parts of the body. A visual impairment may result from a defect in any part of the eye itself, a defect in the optic nerve leading from the eye to the brain, and/or an injury to the brain itself. The numerous possible causes of impairment make generalizing about its effects difficult.

the child has, or has had in the past, considerable pain which may account for his irritability and/or misbehavior. An albino child may have photophobia (eye discomfort) in bright light and should be permitted to wear dark glasses in strong sunlight and should be encouraged to play in shady areas. In addition, his skin is easily susceptible to sunburn. A diagnosis of retinoblastoma alerts the educator to the fact that the child probably had long and arduous therapy during preschool years and that the parents may have suffered mental anguish during that period of time. A child with congenital cataracts may have lacked useful vision during infancy until he was old enough for medical remediation; when he enters school, he may need help in learning how to see and to make maximum use of his vision. Each diagnosis will yield valuable clues to understanding the child and his own unique needs.

The *etiology* identifies the cause of the condition. Certain etiologies may suggest the possibility of other

disabilities that can accompany the visual impairment. For example, the child with retrolental fibroplasia may have sustained minimal brain damage in addition to the visual impairment as a result of his prematurity. Both retrolental fibroplasia and rubella (German measles) during pregnancy should alert the educator to the possibility of a hearing loss, cardiac condition, minimal brain damage, and other disabilities. An hereditary condition should suggest the possibility of emotional problems in both parent and child. Parental conflict may arise when a child is born with an hereditary visual impairment. Parents may blame each other for producing the defective child until the hereditary basis is established; then the one whose genetic makeup is responsible may become guilt ridden while the other may reject this partner, and the marriage disintegrates. The adolescent with an hereditary condition may also develop emotional conflicts as he approaches adulthood and begins to think of marriage and a family. Educators need to be alert to the direct as well as the indirect effects of certain etiological factors.

If information concerning the *onset* of the visual impairment is not included in the physician's report, it should be determined because of its importance in understanding the child. The child who has a congenital total impairment cannot be expected to acquire purely visual concepts, i.e., colors. On the other hand, a child who loses his vision even as young as nine or ten months of age may retain some memory of visual concepts. The child who loses his vision after he has acquired a skill such as walking or feeding himself will usually retain that skill and will perform it with more ease and facility than will the congenitally blind child. The longer the child retains some vision, the more opportunity he has to benefit from learning both concepts and skills through his sense of vision. Information concerning the type of onset should also alert the educator to potential problems. Sudden as well as gradual loss of vision may cause emotional difficulties. A traumatic loss, such as in an automobile accident, may

lead to unusual fear reactions. The exact kind of emotional result of a particular type of onset cannot be predicted accurately. Consequently, the educator must be sensitive to the various possibilities and deal with them immediately, so that greater problems do not develop in the future.

The *prognosis* indicates the probable result or future of the condition. It is of importance to the educator, particularly if the vision of the child may deteriorate in the future. This does not mean that the child should be taught braille while he still has some useful vision, because that procedure may give rise to additional emotional reactions. Rather, the educator should be alert for signs of deterioration, should give emotional support when and as it is needed, and should modify the visual demands in the educational program to meet the child's changing needs.

The *degree and kind of visual loss* is usually reported separately for each eye using O.D. (oculus dexter) for the right and O.S. (oculus sinister) for the left eye. The report for a child with a severe visual impairment may be written in descriptive terms, such as "counts fingers," "sees shadows," or "has light perception." If the child has some vision, the degree of vision is usually reported in numerical terms, such as 20/200. The first figure indicates the distance at which the child is placed in order to measure his acuity in relationship to the standard or norm which is given in the second figure. In this instance, the child sees at 20 feet what the average or normal person sees at 200 feet and the child is considered legally blind. The report usually states acuity as measured without correction—that is, without glasses—and also as measured with the best correction. Having the two measures available gives the educator a clue as to when to insist that the child wear his glasses and when not to insist because of their limited correction.

Frequently, the measure of distance vision is the only one included in the report and gives little indication to the educator of the child's visual potential in perform-

ing such eye tasks as reading. The educator should therefore request a measure of near vision. The report for near vision is usually given in terms of size of print that can be read at a particular distance.

If the child's field of vision is restricted, it will be reported in terms of the number of degrees he can see in the normal visual field, with an indication of where he does see within that field. This information is often reported in chart form. Knowing that a child has only peripheral vision helps the educator as well as the parent to understand why the child does not look directly at a person or object.

Finally, the physician's report usually includes prescribed treatment such as surgery, glasses, or medication, and any recommendations. The physician usually indicates with his recommendations whether the child should avoid or be restricted in certain types of physical and/or visual activities. Both the physician and the school nurse will be helpful in interpreting the results of a child's eye examination and the implications of the findings for planning his school program. Principals and teachers should not hesitate to consult these specialists for such interpretations.

While the information reported in an eye examination is useful to the school, it frequently cannot tell whether the child should be educated by visual or by tactile media. This determination must often be made by the teacher and the parent using both approaches. In general, it is usually better to first try the doubtful cases on visual materials. The teacher should employ a variety of visual materials under different conditions of lighting in order to assess how well the child can perform visual tasks and under what conditions he can perform best. The child himself will often indicate preferences which may provide valuable clues for the teacher. If the child cannot successfully use visual materials and if he and his parents recognize his limitations, he will be more receptive to using tactile means of instruction. Braille can be a threat to the child who has

partial vision and the educator must be sensitive to the child's feelings in this regard.

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National Society for the Prevention of Blindness. *Helping the partially seeing child in the regular classroom.* New York: The Society, 1965.

Riviere, M. *Rehabilitation codes: five year progress report.* New York: Rehabilitation Codes, 1962.

3 The Impact of a Visual Impairment

Restrictions of Visual Impairment

A visual impairment may impose three significant restrictions on the child in school: it may limit his acquisition of knowledge about his environment, it may restrict him in his access to the printed word, and it may restrict his ability to move about with ease in his environment.

The visual impairment restricts the child in gaining knowledge of his environment by depriving him of one of the main sensory avenues by which information about the world in which he lives is acquired. Knowledge gained from the remaining senses is often incomplete and imperfect, and only roughly approximates what is learned through the sense of sight. The sense of touch is useful only for those objects with which the child can have direct contact and which are small and sturdy enough to withstand handling. The sense of hearing yields little information concerning the object world and is useful for giving information about the environment only when sound is involved. The olfactory, gustatory, and cutaneous senses yield even less information. This restriction on sensory input places great responsibility on the educator to find substitute ways of enabling the child to learn about his world and to help him learn to make maximum use of his remaining senses.

Substitutes are available to compensate in part for the limitations related to access to the printed word. The child with partial sight can sometimes read regular print with or without the aid of magnifiers or low vision aids to supplement materials available for him in large type. Those with insufficient vision for reading

large print may be instructed in a tactile system of written communication—braille. Since both braille and large type materials are restricted in availability, recordings of the printed word are frequently used. These may take the form of records—such as the Talking Book—or tape recordings. In addition, sighted readers are often employed to read materials which are not available in other forms. No one method of reading should be emphasized to the exclusion of others. At various times in his life, the visually impaired child may read by himself using braille, large type, or regular type, with or without the aid of magnifiers, or by using recorded materials or sighted readers. Consequently, each child should develop skill in a variety of techniques in order to gain access to the printed word.

Finally, the visual impairment restricts the child in his ability to get around safely and easily in his environment. This restriction on mobility, however, is one which is of great significance in educational programming since much can be done to compensate for it. Emphasis on the development of orientation and mobility skills should permeate the entire school program. Suggestions concerning orientation and mobility are discussed in greater detail in Chapter 6.

When the visually impaired child reaches adulthood, he often encounters another restriction, that of limited vocational opportunities. This restriction frequently results in underemployment of the visually impaired and is part of a larger problem of discrimination. The educators' role in combatting such discrimination lies primarily in the realm of public education. Accepting visually handicapped children in regular schools will do much to demonstrate their capabilities so that they will not be viewed as helpless and unable to earn a livelihood as adults.

The Influence of the Visual Impairment on Growth and Development

Except for certain aspects of mental growth, a visual impairment in and of itself does not exert a direct influence on growth and development. There are some important indirect influences, however, which should be noted.

While a visual impairment does not directly affect physical development on such measures as height and weight, it does indirectly influence physical coordination by reducing the range of opportunities to develop good coordination. Many physical activities, such as skipping, are learned through imitation by the young child with normal vision. The visually impaired child must be taught these skills, usually by his parents or teachers. In addition, the inherent dangers of too rapid movement in his environment reduce the opportunities for active play and games, such as baseball, football, and bicycle riding. Limited participation in large muscle activities tends to restrict the development of physical skills and encourages a tendency to be passive or content to sit on the sidelines rather than to be active. Similarly, the visually impaired child has fewer opportunities to develop the finer muscles since he has not had the practice a normal child has had in manipulating minute objects. Both home and school are called upon to provide motivation and opportunities for developing good physical coordination in order to reduce the impact of the indirect effects on physical development.

The visual impairment does restrict some aspects of mental development, particularly in the cognitive areas. Impaired vision restricts opportunities to learn about the environment and to acquire such concepts as color and perspective. To compensate, both home and school should plan as many first hand experiences as possible to develop and utilize the other senses. Where such direct experiences are not possible, parents and teachers should employ models of the real object for learning. For those concepts that can neither be acquired through first hand experiences nor secondhand through models, the child must often rely on the explanations of others and thus develop his concepts through the eyes of others. Since such explanations may encourage the use of words without real comprehension, the objective of the educational program should be directed toward making words and concepts optimally meaningful by increasing op-

portunities for interaction with the environment through as many first hand experiences as possible.

In general, a visual impairment in and of itself does not cause emotional problems in the child. The visually impaired child is exposed to the same hazards in his emotional development as any normal child, but at times certain factors become critical. In early childhood, attitudes of parents and other members of the family toward him and his disability are particularly important. Educators are increasingly cognizant of the necessity for providing help to the parents as soon as possible after they learn that the child is blind, in order to help them adjust to their child so that he in turn can develop a healthy emotional outlook. Normal problems of adolescence may be intensified. For example, the dependence imposed by the visual disability is antagonistic to the normal adolescent striving for independence. The uncertainties of his vocational future and his role in adult society may foster anxiety feelings. As with many normal adolescents, counseling may be necessary to enable the visually impaired adolescent to step into the adult world. In general, the emotional problems of the visually impaired do not differ in kind from those of the normal, but they may differ in degree, due to abnormal stresses imposed on the individual at particular periods of his life.

A visual impairment does influence social interaction by depriving the individual of opportunities to participate in nonverbal communication, through gestures, facial expressions, and glances which are such an important part of social contacts. In addition, since the visually impaired person is a member of a disability group he shares with members of certain racial and religious groups a minority status in society and may experience some discrimination. As the general population acquires greater knowledge of disability groups, there should be greater acceptance of them and less discrimination. Meanwhile, home and school should work together toward encouraging the acceptance of the child by his peer group. The presence of handicapped children

in a regular school should help to minimize the discrimination that often results from lack of knowledge.

The similarities of visually impaired children to normal children in all aspects of growth and development should at all times be emphasized. Differences, occurring due to restrictions the impairment places on the range of opportunities that promote healthy growth and development, can often be minimized by sound educational programing, both at home and at school.

Suggested Supplementary Reading

Bauman, M. K., and Yoder, N. M. *Adjustment to blindness—reviewed.* Springfield, Illinois: Charles C Thomas, 1966.
Presents a comprehensive review of the disability related to eventual adult adjustment. The discussion of psychological research and blindness in Section III is especially relevant for educators.

Lowenfeld, B. *Our blind children: growing and learning with them.* Springfield, Illinois: Charles C Thomas, 1956.
Written for parents, this book discusses many of the problems faced by parents of blind children, and suggests ways of solving the problems.

Lowenfeld, B. Psychological problems of children with impaired vision. In W. M. Cruickshank and G. O. Johnson (Editors), *Psychology of exceptional children and youth.* Englewood Cliffs, New Jersey: Prentice-Hall, 1963.
Chapter V summarizes the psychological aspects of visual impairment, drawing heavily on research. Recommended for those seeking a scholarly review of the impact of the disability.

Wright, B. A. *Physical disability: a psychological approach.* New York: Harper and Row, 1960.
The author draws heavily on biographical and autobiographical materials to illustrate her points. Especially recommended for those interested in the problem of disability in our culture.

4 Educational Programs

Most visually impaired children are educated in either a residential or day school program. While some may be able to participate in a regular school program without special assistance, these tend to be the exception. Because each program has its special strengths for particular children, a brief description of both types will be presented. These programs should not be considered mutually exclusive, but rather complementary, and any one child should have both types available to him to meet his particular needs at any stage in his development.

Residential Schools

During the early 1830's, three schools were founded in the United States (Boston, New York, and Philadelphia) for the purpose of educating visually impaired children, and all three are still in existence. The residential pattern of European education for the blind was followed in organizing these schools. While these first schools were initiated and supported through private financial resources, the various states quickly followed the pattern of Ohio which in 1837 provided state funds for a residential school for blind children. Today there are more than fifty private and public residential schools. All fifty states provide for the education of the visually impaired, either in a school or program in their own state, or in programs of other states through cooperative arrangements.

Residential schools have been criticized in the past for providing a segregated educational experience that did not prepare the student for the competition of a sighted society. Hence, most residential schools currently provide varying degrees and types of integrated experiences for their students in both curricular and extracurricular

areas. In some states, students (particularly at the secondary level) are returned to the regular high school either in their home community or in the district where the residential school is located. Such practices contribute to the total educational experience of the student and provide him with a more realistic preparation for living in an integrated society.

In states where day school programs are well developed, relations between residential and day schools vary. Ideally, residential schools are in a unique position to provide services for visually impaired children that cannot be provided in a small day school. These services include diagnostic appraisal of visually impaired children with other handicaps; remedial educational programs for children with severe and/or unique educational problems; consultant services to teachers in local programs; a center for the distribution of instructional materials, including books; summer and/or short term academic year programs for children who need intensive instruction in such areas as typewriting, braille reading and writing, physical education, home economics, daily living skills, orientation, and mobility; and materials and programs for parents of preschool visually handicapped children. Principals and teachers should investigate the resources of their state residential school and should utilize such resources as are available to enrich the educational program for children attending local day schools. A visit to the residential school will often be an invaluable inservice educational experience for principals and regular teachers.

Day School Programs

Day school programs for the visually impaired were initiated about 1900 as part of special education in the public schools. The movement was slow to develop until about 1955, when the wave of children who were blinded as a result of retrolental fibroplasia swelled the population. Today nearly 400 school districts have programs for visually impaired children and these programs enroll about two-thirds of the school age visually impaired population. In addition, some private and parochial schools operate day school programs.

Early programs tended to separate the blind from the partially sighted, and classes for the partially sighted tended to be more segregated than those for the blind. As was noted earlier, there is now a trend toward grouping blind and partially sighted children together. In addition, as the benefits of educating the handicapped with the so called normal child are recognized, segregated classes are giving way to more integrated programs.

While programs vary among the various school systems, they may be grouped into two categories: those which utilize a special room and those which employ an itinerant teacher. These two types will be described briefly and the principal's role in each will be indicated.

Special Room. Programs which utilize a special room may be further subdivided into those which enroll the child full or part time in the special class and those which use the special room as a resource room for children who are enrolled in a regular class. In the *special class pattern* the teacher functions as a homeroom teacher and the children receive formal instruction in that room for varying periods of the school day. Usually the amount of time spent by the child in the special room is determined by his ability to participate in the program of the regular class. In any one such special class the time spent by children in that room may vary from very little to almost the entire day.

In the *resource room plan,* the student is enrolled in the regular class and is considered a member of that class. He returns to the resource room for special help on a regularly scheduled basis or as the need arises. One advantage of this plan is that the child is considered a member of the regular class rather than a visitor, which may be his status when he is enrolled in the special class.

The principal of a building which houses either of these types of special rooms plays an important role in determining the success of the program. Acceptance of the program, the special teacher, and the visually impaired child is accomplished when the principal is him-

self accepting and sympathetic to the objectives of the program. The principal, being responsible for his school, must have and must translate into action a philosophy of education that is committed to the education of the handicapped. He can work with the special teacher in placing the child in the regular class that will best meet the child's needs, and then both principal and special teacher can assist the regular teacher in accepting the child. He should not force regular teachers who resist having a handicapped child in their classes, since disguised resentment on the part of the teacher may do more harm than good to the child. In such an instance, the principal may wish to explore with the regular teacher the causes of such feelings and help the teacher overcome them through insight, increased knowledge, and understanding of individual differences. Frequently, regular teachers are reluctant to accept a visually handicapped child in their classrooms because of lack of understanding of the significance of the disability and lack of confidence in their ability to meet the needs of such a child. The principal and special teacher can allay fears and dispel such doubts through inservice education programs within the school as well as through informal contacts during the school day.

The principal also has a role to play in helping the special teacher become a part of the total school. Many times the special teacher is apart from the rest of the school and hence segregated from the mainstream. Frequently, the classroom itself is isolated. Placing the special room among classrooms enrolling children of similar age will often avoid such geographical segregation. The principal should encourage special teachers to participate in staff meetings, in regular inservice education programs, and in the professional activities of the school system. In addition, special teachers should also attend meetings called by the director or supervisor of special education. The special class teacher should be expected to assume a fair share of school duties and responsibilities since participation in these activities helps the special teacher become a part of the total school.

Since the special teacher does work more closely and intensely with problems of children, and over longer periods of time, the principal may at times need to help the special teacher regain perspective. Too intense emotional involvement may be harmful to both teacher and child, and the principal is often in a unique position to prevent such a situation from arising. The principal should encourage and lend support to the special teacher, when necessary, since the progress of some children may be difficult to evaluate and the teacher may become discouraged when seemingly little growth is occurring. While the principal should give encouragement and help to the special teacher, he needs to determine when such support is needed in excess, requiring consultation with the special education director or supervisor.

The principal should also interpret the special program through work with parents of other children in the school. The special teacher may wish to demonstrate for parent groups some of the special materials used in educating visually impaired children and also to discuss with parents the purposes of the special program. Increasing the understanding and knowledge of these parents will help them to answer questions posed by their own children about the visually impaired children who may be in their classes. Since parents of children in the special program may live in another school district, the principal may need to extend a more personal invitation to them to participate in the parent activities of the school and to attend parent group meetings of the school.

Itinerant Program. A program gaining in popularity is the teacher counselor or itinerant program, which provides the visually impaired child with maximum opportunity for an integrated educational experience in his neighborhood school. In this type of program, the visually impaired child is enrolled full time in a regular class. A special teacher works with him and his teacher on problems that arise during the school day. The itinerant teacher provides individual instruction for the child in such skills as braille reading and writing, type-

writing, etc., and obtain books and other materials he needs. He may also tutor the child in a subject in which he is having difficulty. The itinerant teacher works closely with the regular teacher in planning for appropriate books and instructional materials, in offering suggestions to the regular teacher regarding substitute activities when those planned for the class are visually oriented, and in consulting about instructional as well as noninstructional problems that arise from day to day. In addition, the itinerant teacher works closely with the parents in all aspects of the child's school program.

The number of contacts the teacher makes during the school week with child, teacher, and/or parent is largely determined by the needs of the individual child and the regular teacher. Ordinarily, the itinerant teacher schedules regular visits to the school, but remains on call should any problems arise between visits.

The principal likewise plays an important part in determining the success of the itinerant program. In addition to the role outlined in the previous section, he must usually assume greater responsibility for program interpretation to regular teachers and often functions as liaison between the itinerant teacher, the child and/or his regular teacher. Through the itinerant teacher, the principal should determine what the child can and cannot be expected to do, the responsibilities of the regular teacher, and how the school program can best be adapted for the child. Since expectations differ from child to child and school to school, the principal and itinerant teacher must maintain clear lines of communication and keep each other informed of any problems encountered so they can be handled in the early stages. While the itinerant teacher usually is not in any single building on any particular day of the week, the principal should know how he can be reached, should the child need help. Good communication is basic to a good itinerant program.

The principal is also responsible for providing a place for the itinerant teacher to work when he is in the building at a regularly scheduled time. For the teacher to work

efficiently and for the student or regular teacher to derive maximum benefit from the itinerant teacher's visit, a place providing some privacy for their meeting should be available. Should the child be absent from school on the day of the scheduled visit, the itinerant teacher should be so informed. Conversely, the itinerant teacher should notify the principal if he is unable to keep his scheduled appointment.

The role of any itinerant person in a school program is frequently misunderstood by regular teachers unless it is clearly outlined and explained to all concerned. The principal is frequently responsible for such interpretation and should provide opportunities for regular teachers and the itinerant teacher to meet together.

While organizational patterns vary from district to district, the cooperation and support of the school principal are essential to the quality of any program. The principal, as the recognized educational leader within a school building, has ultimate responsibility for all programs, children, and staff within that building. To a large extent, then, the success of the special program depends upon the degree of leadership exercised by the principal.

Suggested Supplementary Reading

Jones, J. W., and Collins, A. P. *Educational programs for visually handicapped children.* Washington: Government Printing Office, 1966.

Contains a comprehensive description of educational programs for visually handicapped children, based on a survey of 353 special local public school programs and 54 residential schools during the 1962-1963 school year.

5 Selection and Placement in the Appropriate Program

The ultimate objective of any educational program for the visually impaired should be to prepare them for happy and productive lives in society. In theory, the best preparation may be considered that which enables them to live in a sighted world from the beginning of their educational experiences. However, this may not be the best for all children. Some at particular times in their development may need the security of a segregated program in order to accept and learn to live with themselves as visually impaired individuals, so that they can later move comfortably into a society which looks upon them as being different. Therefore, the selection of a particular program should be based on a current evaluation of the child's needs at any one point in time; the program selected should be the one which will best meet his needs. No placement should be considered final; rather, there should be ongoing reevaluation and reassessment so that placement can be changed to suit changing conditions.

The foregoing is based on an assumption that every visually impaired child has available to him the resources of both residential and day programs. This of course is not always reality, but it does represent an ideal toward which educators can work, so that eventually every visually impaired child can be placed in the program that fits his needs rather than having him fit the available program. Any particular program, however, can usually be modified and adapted to meet the needs of children, when educators are willing and use their ingenuity and creativity to modify and adapt.

Screening for Placement

Increasingly, special educators are utilizing a screening or educational planning committee to recommend place-

ment in a special program. This committee should include those school personnel who know the child well: his teachers, principals of schools involved, the school nurse, the school social worker, the psychologist, the special education administrator, and any other school person who is or will be concerned with his current and future placement. These committees are usually chaired by the director or supervisor of special education. Parents should also be closely involved in planning. In some instances, the screening procedure may encompass larger administrative units at the intermediate school district, or even at the state, level. In states where there are both residential and day programs, representatives of both should be included, if possible. This policy encourages cooperation and facilitates the transfer of a child from one program to another when necessary.

The educational planning committee or, if there is no committee, the person(s) recommending placement, should have certain information available about the child in order to make the best possible decision. The following are necessary and pertinent:

1. *Ophthalmological Examination.* Most states stipulate visual eligibility requirements for both residential and day programs. A thorough examination is therefore required to determine eligibility. The report of the examination should also include the prognosis and recommended treatment, since these factors may be relevant for placement. While the visual acuity measurement may not indicate whether the child with severely restricted vision will be able to use this vision effectively in school learning, it does provide a rough guide for the teacher, and it is essential. Measures of both near and distance vision should be requested.
2. *Physical Examination.* A general physical examination is useful in detecting the presence of any defects which can or cannot be remedied. Any restrictions on physical activity should be requested of the physician in his report.

3. *Psychological Evaluation.* Frequently, valid psychological test results are not available, partly because psychologists who are requested to evaluate the visually impaired child are often seeing this type of child for the first time. Consequently, test results should be viewed with a degree of skepticism, and the child should be given the benefit of the doubt, particularly where mental or educational retardation and/or emotional disturbance are indicated. Results from group tests are especially suspect and, whenever possible, individual tests of intelligence should be administered. Similarly, personality tests may not always be valid, and findings from such measures should be interpreted in the light of all the available information about the child. The observations of qualified teachers during a trial period in a school program may be better predictors of ability than the psychologist's report.
4. *Previous School History.* Academic achievement test results are not always available, and consequently heavy reliance must often be placed on the reports of previous teachers. Since such reports tend to be subjective, teachers should attempt to give as realistic an appraisal of academic achievement as possible, in comparative terms which will be meaningful in attempting to place the child in the most suitable program and/or grade. If the child attended nursery school, reports from that teacher are helpful. In addition, school personnel may wish to visit and observe the child in that setting. When nursery school reports are not available for the child entering school for the first time, it is useful for the teacher and/or school nurse or school social worker to observe the child in his home environment on several occasions as well as to interview the parents relative to the child's abilities in order to determine his current achievement level.
5. *Social History.* Information concerning the home background, attitude of parents toward the child and his disability, parent-child and handicapped

child-sibling relationships, and parental description of early development, may all have relevance in deciding placement, as well as in making future educational plans. Recommendations regarding referral of parents with problems may also be made during the educational evaluation.

6. *Wishes of the Parents.* Parents' wishes and needs should also be considered in the educational planning. Sometimes it may be helpful for the educational planning committee to discuss its tentative recommendations with the parents prior to making a final decision. It is particularly important to assess parental attitudes toward the school, since much of the child's success will be determined by the degree of parental cooperation and interest in the school. Sometimes educators fail to realize that parents too have a stake and interest in the future of their child and that they should have a voice in any decisions made concerning him.

On the basis of the above information, a decision can usually be made regarding placement. No decision, however, should be regarded as final and every child should be reevaluated periodically to assess any significant changes that may indicate the need for a change in placement. Annual reviews are highly recommended; more intensive reviews should be made when some change will occur in school programing, such as transfer to a junior high or senior high program. As the needs of the child change, so should his school programing change to better meet his needs.

If the teacher who is receiving the child was not included in the planning process, he should be provided with all the placement information discussed above, and particularly with the reasons for recommending the placement. It is the principal, together with the special education director or supervisor, who bear responsibility for conveying this information. Where an itinerant teacher is involved, the principal should arrange for meetings with all the teachers so the itinerant teacher

can describe the program, the itinerant teacher's role and responsibilities, and the kind of assistance to be expected by the regular teacher. The success of any placement is often determined by the involvement of teachers and principal in the planning process.

Preparing for Placement

When the decision regarding placement is made, the child, his parents, teachers, and other children prepare for his first day.

The child entering school for the first time is probably eagerly looking forward to this experience, and his preparation is similar to that given any child entering kindergarten. His parents should take him to the school when the other children are not there in order to acquaint and orient him with the classroom, its equipment, and special features; to meet his teacher and the principal; and in general to help him know what to expect. If he will be riding to school by bus or car, then this experience should be described and explained so that it will not be strange to him. If possible, he should have someone he knows accompany him on the first trip, or he should have an opportunity to meet his fellow passengers, so that he will not feel alone. Sometimes parents may wish to bring him on the first day and let him ride home with his classmates after he has had an opportunity to become acquainted. Particularly for the very shy child, the principal should encourage the parents to role play the first day of school with its many new experiences so the child will know what to expect.

Preparation for the older child who has recently lost his vision, or for the one who is changing schools will depend greatly upon the individual needs of each. The principal, in the initial interview with parents and child, is in a better position to suggest the best method of preparation. Sometimes it may be advisable for the principal to orient the child to the new school apart from the parents. Because each case is individual, the principal should be sensitive to the needs of the child and should plan accordingly.

For some parents, the first day of school can be traumatic, particularly if the parent has strong dependency

needs. Again, the principal should assess the needs of the parents and make appropriate recommendations. In some instances, referral to the school social worker or to a community social agency may be indicated. In others, where the situation seems normal, only the assistance which is given to parents of normal children in similar circumstances may be necessary. It is probably safe to assume that the separation of a parent from his visually handicapped child the first day of school may be somewhat more anxiety provoking than the separation of a parent from his normal child. Any extreme deviation from this pattern may represent a call for help from the parents, and hence require an appropriate referral by the principal.

If the classroom for the visually impaired is a new addition to a school or if the child is the first one so handicapped to be enrolled in that school, the principal should initiate a program of inservice education with the regular teachers. It is essential for the success of any program that all school personnel understand the purposes of the program, the capacities and limitations of the children enrolled, and, above all, their responsibility in contributing to the program and to the education of the children enrolled. Such inservice education might be accomplished through demonstrations, visits to the special room to see the special equipment and materials, formal and informal discussions with the special teacher and special education administrator, and, most of all, through actual contacts with a visually impaired child so that they can see and assess his capabilities at first hand. The wise principal will help all teachers learn to know and to appreciate their contribution to education of the handicapped child or children enrolled in his school.

Finally, the other children enrolled in the school must be prepared to accept the handicapped child or children. If a visually impaired child is being enrolled for the first time, that child's class should be prepared intensively for his entrance. That class will usually serve as the leaders for the rest of the school to demonstrate

understanding the capacities and limitations of the visually impaired. The preparation should be on the level of the age and grade involved, and may be similar to that planned for the regular teachers, with talks, question and answer periods, demonstrations, and a visit to the special room. The principal should be noticeably involved so that the children are assured of his acceptance of the program. In general, children tend to accept what their teachers accept and teachers tend to accept what the principal accepts. Hence, the crux of the acceptance falls on the principal. Above all, the children should be encouraged to give help to the visually impaired child only when needed.

Preparation for the opening of a new room for visually impaired children in a building should be done on a similar basis. The special teacher may wish to invite each classroom to visit his room before the visually impaired children enter school, so that some basic understanding can be initiated. Each classroom should then be prepared in advance, as described above, for the visually impaired child who is to spend a part of his school day in that room.

The process of public relations within a school is ongoing and should continue as long as the program is in operation. As understanding and acceptance increase, there is less need for formal inservice education, but there is a continuing need for informal contacts.

Suggested Supplementary Readings

Jones, J. W. *The visually handicapped child at home and school.* Washington: US Government Printing Office, 1963.
Describes for parents and teachers problems encountered both at home and at school, and suggests ways of coping with them. Chapter IV is especially recommended for educators in the process of developing a program for visually handicapped children.

Johnson, Y. *A blind child becomes a member of your class.* New York: The American Foundation for the Blind, 1961.
Provides information for the regular classroom teacher who has a blind child enrolled in his class, and suggests ways of helping the child feel comfortable and adequate. Many of the suggestions given are equally valuable for normal children.

6 The Visually Impaired Child in the Regular Classroom

While in general visually impaired children are considered more like than unlike so called normal children, their disability does tend to create some different educational needs. This chapter discusses guidelines for the general educational needs, followed by guidelines for those needs which may be considered characteristic of specific age groups.

General Educational Needs

Sensory Training. The entire school program for the visually impaired child includes emphasis on increasing visual ability and on improving discrimination in the remaining senses, particularly the auditory and tactile.

It is now generally accepted that wise use of limited vision does not result in damage to the eye. In addition, there is some evidence to indicate that visual ability in severely limited children can be improved (Barraga, 1964). Hence, the principal should encourage teachers to motivate the visually impaired child to engage in as many of the visual activities of the classroom as possible, helping the child to make maximum use of residual vision. The visually impaired child usually will be able to see his best in the good visual environment provided in most of today's school rooms. The child should be encouraged, however, to select the place in the room where he can see most efficiently. In addition, when the chalkboard is used, he should be encouraged to move close to it, and teachers should read aloud what they are writing on it. This will often enable the visually impaired child to write by using oral dictation, rather than having to copy visually from the board.

The presence in a school of a class for the visually impaired or of a single visually impaired child can often provide the necessary impetus for developing an

eye health education program that will benefit all children. Discussions concerning such topics as vision screening, eye care, good visual environment, and the operation of the visual sensory system can increase the knowledge of all children in this important but often neglected aspect of health education. Accident prevention should also be emphasized, since each year relatively large numbers of both children and adults needlessly lose the sight of one or both eyes as a result of accidents. The school nurse, as well as the community ophthalmologists, are usually more than willing to assist in planning and participating in such educational programs.

In addition to increasing the utilization of vision, the school program should also emphasize the development of discriminatory abilities of the remaining senses. Again, activities conducted at all grade levels to assist the visually impaired child will also assist the other children. Learning to listen, remembering details accurately, and identifying various environmental cues aurally are all skills which can be learned and which are valuable for every child to acquire. Much more could probably be derived from the mass media of radio and television if such listening and attention skills were better developed in all children.

Emphasis on sensory training should not be restricted to the auditory sense but should include training the lesser used ones as well: tactile, kinesthetic, olfactory, and gustatory. Discriminatory ability in using all of these can be improved if children are given the opportunity to do so. In the entire area of sense training, the objective is not to increase the acuity, which is usually fixed, but rather to improve the use that is made of the sense, namely, discrimination.

Physical Development. In previous sections, the indirect influence of a visual impairment on physical development and the restriction of the visual impairment on an individual's mobility were discussed. The entire school program should be directed toward reducing the impact of the disability in these areas.

Frequently, a visually impaired child is integrated with normal children for all school activities except physical education, and this activity is usually the one he needs the most! Since a visual impairment often restricts the child in learning various physical skills, he needs optimal conditions to acquire these skills. The child should have an opportunity to take part in all the usual physical activities of the school day unless excused by his physician. It will help him learn a new skill planned for the class that day if the teacher gives him verbal instructions or asks him to demonstrate a skill. The special class or itinerant teacher may be available on days when new skills are introduced, if there is sufficient notice given and it can be worked into the schedule. If this is not possible, the special teacher may offer suggestions that will assist the regular teacher. In some instances, an older child may be assigned to the visually impaired child for that period to give him individual instruction. Volunteer groups and parents may also function as aides to the physical education instructor. If the activity is such that he cannot participate even with the most ingenious adaptation, he should be encouraged to engage in some other physical activity or to practice some physical skill on his own, rather than to be excused or assigned a passive activity.

One often heard objection to having a visually impaired student in a regular physical education class is that he may be injured. While there is an element of reality in this concern, such a possibility exists for all students, unless they know and practice the rules of safety for the particular activity. The visually impaired student can and must learn all the usual rules of safety and, in addition, sources of danger for him. The presence of a visually impaired student in a class may even make the other students more safety conscious as well as more cautious and careful.

Daily Living Skills. Closely allied to the important role of physical education in the school life of the visually impaired child is the development of daily living skills. While the special education or itinerant teach-

er will assume major responsibility for instruction in these areas, the principal and regular teachers can support what he is doing. These daily living skills include self care, elimination of mannerisms, and orientation and mobility.

The visually impaired child lacks the feedback a child with vision gets when he looks in a mirror. Consequently, parents and teachers are often called upon to be his mirror, to stimulate him to take an interest in his appearance, and to help him know how he looks to others. He should not be permitted to dress or act in a way that may contribute to his being rejected by his peers, nor should his appearance or manners be excused on the basis of his disability. He should be held to the same standards as any other student in the school. The principal and regular teachers can reinforce what the special teacher is working toward in the area of self care by complimenting him when his appearance is satisfactory and by expressing displeasure when it is not and they know he can do better. Needless to say, the latter expressions should be conveyed privately to avoid embarrassment to the child.

Some visually impaired children develop mannerisms, sometimes referred to as blindisms, which should be corrected early since they tend to draw attention to the child's exceptionality. These mannerisms include rocking, poking at the eyes, head shaking, and a variety of other physical manifestations. While the exact cause remains in doubt (and is probably different for each case), there is some evidence that they disappear as the child grows older and more conscious of his appearance, and as he becomes more active. The solution probably lies in the area of prevention: keep the child busy and active so that he does not need such forms of autostimulation. Should the mannerisms persist, however, a more direct approach may be necessary: informing him that these actions are socially unacceptable, or helping him recognize the times when he is indulging in such activities so that he can stop himself, or praising him when he is not engaging in the mannerism. Sometimes a hand

placed on his head or shoulder will serve as a gentle reminder. Principals and regular teachers should cooperate with the specialist in whatever procedure is adopted for eliminating the mannerism. Again, any correction should be done in private, to avoid embarrassment.

There is one habit that principal and regular teachers can encourage the visually impaired child to acquire, namely, to face the person to whom he is speaking. This becomes increasingly important for the totally blind child, particularly as he grows to adulthood. A gentle verbal reminder or movement of the child's head so he is facing the person with whom he is speaking will help him learn this pattern so that it becomes habitual. If all adults assist the child in this manner while he is young, he will not become an adult who sometimes turns his back to his audience.

An earlier section of this paper discussed the effect of restricted visual impairment on an individual's ability to move about easily in his environment. A relatively recent trend in the education of the visually impaired is the emphasis on training in orientation and mobility, which reduces the effects of this restriction. Day school programs have been criticized because this training is frequently neglected in their curriculum, partly because only the larger city systems have sufficient numbers of students and/or financial resources to employ a mobility instructor. All programs should, however, find some means for providing this essential training for all the visually impaired students who are enrolled. This may be effected through a variety of ways: contracting for services of a mobility instructor on a part time basis from a nearby rehabilitation center, joining other districts in employing someone on a shared time arrangement, requesting the cooperation of the residential school in providing such instruction on an itinerant basis, or requesting an itinerant instructor from the state education agency. Providing for such instruction frequently requires the concerted efforts and leadership of the principal, the special education director, and other administrative personnel.

Orientation and mobility should not be left to the qualified instructor alone, however. There is much that teachers and parents must do as well. The visually impaired child from his first day in school, should be encouraged to move about freely and independently in his classroom, to learn his way about the school building so that he can independently go on errands to any room in the building, and to learn the area surrounding the school. In familiar surroundings he should be encouraged to walk without assistance or holding onto a playmate. For unfamiliar places, he should learn to walk with an adult or another child by taking the arm of the guide and walking briskly beside him. The child should be encouraged to avoid dragging or pulling back when walking with a guide. Encouraging freedom of movement will make the job of the mobility instructor much easier, and will help the child grow into a more independent adult.

General Classroom Suggestions. Classroom teachers at all levels should be aware of a few general guidelines that may assist them in helping the visually impaired child to be a part of their classes. Within reason, the visually impaired child should be expected to do as much for himself as possible; help from classmates and/or teacher should be given only when it is necessary. This is particularly important where his mobility is concerned. He should also be expected to contribute his share toward room housekeeping assignments.

When furniture arrangment is changed, the teacher should inform the child of the new arrangement, and if necessary show it to him, or have a classmate show it to him. For the safety of all children, and especially for the visually impaired child, doors should not be left ajar, and corridors should be free of unnecessary furniture or other objects which may be a hazard. Chairs should be pushed under tables or against the wall so they do not obstruct passage. Such simple safety precautions benefit not only the visually impaired child, but also benefit all children.

The teacher should remember that often the visually impaired child's only contact with his environment may be through touch or sound. It is necessary, therefore, to call him by name when his attention is desired, since a glance in his direction would have no effect on him. It is also a good idea if the teacher (particularly one who teaches the young child) places a hand occasionally on the child's shoulder, pats him on the head, or otherwise establishes physical contact. The teacher should also let the child know when he is leaving the room, particularly if he is wearing soft soled shoes, since the child has no notion of his whereabouts unless he can hear the teacher move around.

In general, a few adaptations to compensate for his limitations will usually enable the visually impaired child to function quite adequately in a regular classroom.

Parent Involvement. No educational program for the visually impaired will be complete unless there is parent participation at all levels. The principal can encourage such involvement through formal parent groups as well as through informal contacts. In general, parents of the visually impaired have not formed strong parent group organizations, as have parents of other disability groups. Their needs both for themselves and for the education of their children have apparently been met through regular parent groups and through frequent contacts with teachers and/or other professionnal workers who have contact with the children. Because of the small number of parents involved, the principal might better encourage their participation in the regular parent teacher program, rather than through a separately formed group. From time to time, the principal and teachers may wish to meet jointly, but informally, with parents as a group on specific issues.

Particular problems with individual children can usually be met through parent conferences. For these meetings, the principal should ordinarily be involved and can assist the teacher in working with the parents.

Storage of Materials. One important administrative responsibility which many principals often do not an-

ticipate relates to providing storage space for materials. The amount of space required for books and necessary equipment for even a single visually impaired child can cause a crisis! Braille materials in particular are very bulky. To illustrate this point, the monthly issue of the *Reader's Digest* usually consists of four volumes, 11 × 13 1/2 inches, and approximately one inch thick. *Webster's Dictionary*, in 27 volumes, will consume 15 feet of shelf space; an encyclopedia, about 20 feet. A year's supply of braille books for a secondary student may require 50 feet of shelf space. In addition to space needed for books, space must also be found for storing such equipment as a typewriter, braillewriter, tape recorder, talking book, maps, globes, etc., all of which must be readily accessible and available when needed and must be stored when not in use. It is important to make space available in advance for storing supplies and equipment. Such space should be accessible at a moment's notice, so the child can obtain his necessary instructional materials when teachers find it necessary to change or substitute activities.

Educational Needs Related to Grade Levels

Preschool. In some states, programs at the preschool level are part of the special education program. Work with parents is usually an integral part of such programs. Sometimes parents and infants together attend school for a few hours a week. As the child reaches nursery school age, he should if possible be enrolled in a regular nursery school, since such experience will help prepare him for his entrance in kindergarten. If no preschool program is available in his community, the principal may be in an excellent leadership position to initiate one.

Kindergarten. The kindergarten year is probably the golden age for an integrated experience for the visually impaired child. The program because of its informal nature usually requires minimal modification. In the oral activities of listening to stories, storytelling, show and tell time, etc.. the visually impaired child is at no disadvantage. Participation in games and physical activities should be encouraged. Substitute tasks can frequently be provided when the group is engaged in visual

tasks like painting. However, while the visually impaired child cannot see the results of his easel painting, he often gains much from the experience of using a brush, although the results may appear somewhat messy to the teacher. Finger painting can be enjoyed for its development of awareness of texture, and of course, any three dimensional craft or art activities require minimal modifications. In general, kindergarten teachers should be encouraged to let the visually impaired child participate in all the regular activities he possibly can. Only by having him try, can she determine his capabilities and, oftentimes, activities which would seem to be difficult for him on a theoretical or logical basis can be performed with surprising facility.

During the kindergarten year it is also well to assess the general developmental and maturity level of the child carefully. For some, it may be better to spend two years in kindergarten or an additional year combining kindergarten and first grade. With preliminary experience in first grade work, the child may be more able to participate with a regular first grade group the following year. In any event, decisions should be made on the basis of the child's individual needs.

Primary Grades. When the child enters first grade, he will need specialized materials and instruction on their use. The child who reads large print or who can read regular print with magnifiers will frequently be able to participate full time in first grade activities. His process of learning is similar to that of any child, and oftentimes only his materials are different. Sometimes it is necessary for the principal to arrange for a bookstand or special table for the large print reader since such materials tend to be larger and heavier than those used by the normal child. The teacher should permit the child to hold his book as close to his eyes as he wishes. This is not considered harmful and may even be helpful to the child in learning to make more efficient use of his vision. Some children prefer regular print books to those in large type. If a child indicates such a preference, he should be so encouraged, since he may be

able to read regular print held close to his eyes more rapidly than large print.

The child who uses braille will need some special instruction in learning the braille code. (See Figure 2 for the braille alphabet.) For this, he requires the help of a specialist. For some children, it is well to introduce braille reading during the latter part of the kindergarten year. The visually impaired child may be ready for reading earlier than the normal child, and since his rate of learning to read may be slow, it is well to give him a head start. However, once he begins to read, it is valuable for him to participate in as many of the regular school activities as possible, including a reading group where he can follow the story and take his turn reading from his braille book. Again, because of the bulk of braille materials, the child should be provided with a comfortable chair and table. He will need special instruction for number work as well, for which he must learn the braille mathematical code.

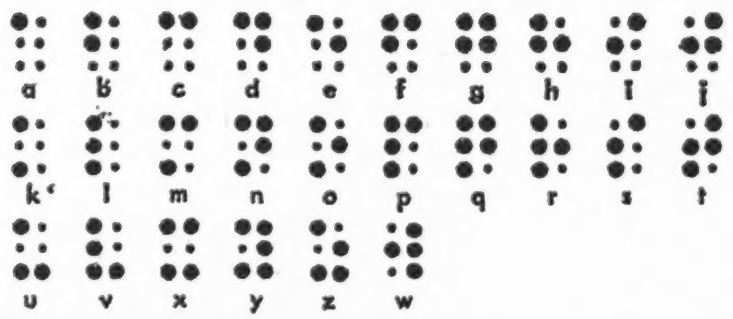
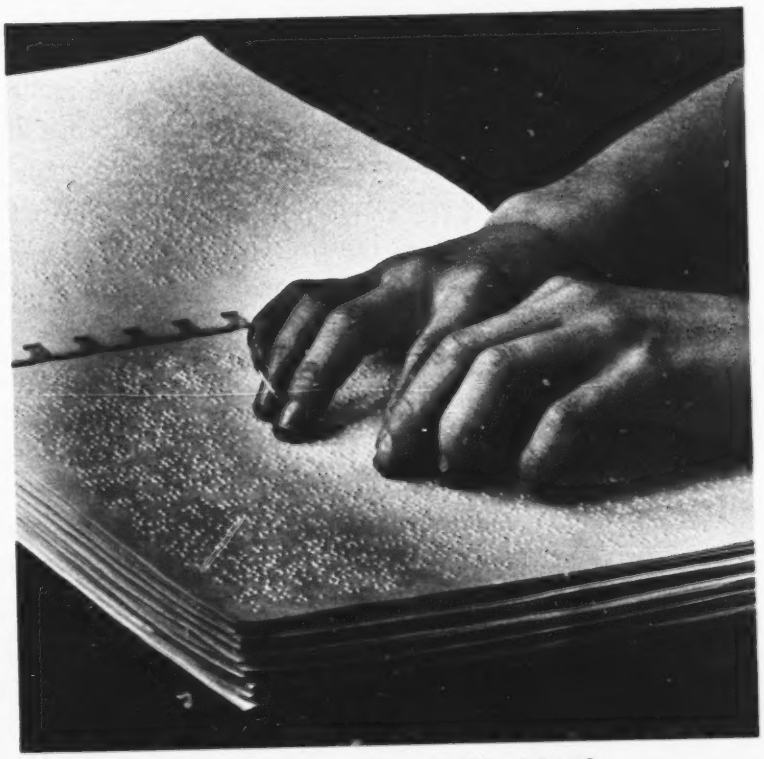


Figure 2. *The Alphabet in Braille*

Braille is a system of raised dots arranged in a six dot cell. The first ten letters of the alphabet use various combinations of the four upper dots; the second ten letters add the lower left dot to the first ten; the last five, exclusive of "w," add both lower dots. Louis Braille devised his system in accord with the French alphabet which has no "w." When braille was adapted for English, an arbitrary character was used for "w."

Writing will be taught first on a braillewriter. As he gains facility in using the machine, he should be en-

Magnifiers and low vision aids provide access to the printed word for some children.



Braille opens the door to the world of books.

couraged to use his braillewriter with his classmates for such activities as writing spelling words from dictation. Use of the regular typewriter should be introduced as soon as possible. It is difficult to determine an age for this activity since the child's physical development and hand coordination are readiness factors as important as his intellectual readiness. In some programs, children as young as seven years of age are introduced to the typewriter. Typing is an extremely important and useful skill to acquire, since it does enable the child to communicate in written language with the sighted world, and hence this should be introduced as early as the child shows a readiness for it. As the child acquires skill in using his special equipment and materials, he should participate increasingly in regular school activities.

The child with borderline vision may present a problem, because the decision of braille versus large print is difficult to make. The wisest plan is probably to encourage him to do as many visual tasks as he can, and if he seems to be failing to keep up with the pace of the class, he should be introduced to tactile materials to supplement the printed materials. The special teacher should be sensitive to the needs and feelings of such a child and of his family regarding braille. Sometimes child and family must come to grips with the realization of his visual limitations before he can be successful in learning braille. This may be a gradual process, requiring the professional skills of a school social worker to help the child and his family work through this adjustment to himself and to his visual impairment. During the course of this process, the child should be given as much assistance as possible to keep up with his classmates, utilizing his sense of hearing.

Throughout the primary grades, the visually impaired child should be provided with as many experiences with normal children as possible, not only in school, but outside of school as well. His participation in craft and handwork activities and in all physical activities, both formally in the school gymnasium and on the playground, should be encouraged. Experiences with music

should also be provided, not with a vocational objective, but rather for its avocational and leisure time value. Membership in a church choir and instrumental music lessons, should he have sufficient interest, are highly recommended. In addition, Cubs or Brownies provide valuable social experiences. The goal during the primary years should be to provide as many and varied experiences with sighted children as possible.

Middle Grades. The work begun in the primary grades should be continued as the child enters later elementary and beginning junior high school. As the volume of reading expected by the teachers increases, the visually impaired child should be introduced to recorded materials on Talking Book records and tape, and he should learn to utilize sighted readers. Reading both braille and large type is considerably slower than silently reading print; in addition, there are fewer materials available in the former media than those in regular print. Hence, additional resources are required to enable the child to keep up with the volume of reading that is required in high school and college. Preparation should begin early to develop listening and note taking skills. Good study habits should also be developed. The visually impaired child needs to learn how to make the best use of his study time, since his materials are more limited and reader service may not be available to him to the extent he would like.

Some time during these years, the specialist should introduce the braille reading child to the use of slate and stylus. For the high school years, this is a more convenient method of writing than is the use of the braillewriter, and the child should acquire skill in using it prior to entering high school. The academically inclined student should also be introduced to braille shorthand to facilitate his future note taking. In addition, it is well for students reading both print and braille to learn how to use a portable tape recorder for note taking.

The question of how to take class tests frequently arises during these years. A variety of procedures may be employed. If there is a special classroom or resource

Learning to write on the braillewriter.

Managing the slate and stylus comes later.

room, the child can return there and have the special teacher give him the test which can be recorded; and if the recorder is equipped with a separate ear piece, the child can remain in the regular room where he can type his answers directly or write them in braille and type them later. If a test is dictated to the rest of the class, he can simultaneously respond by either typing or writing his answers in braille, to be typed later. If the child is using a slate and stylus to record his answers for a true false test, the teacher should have him use "i" for incorrect and "c" for correct statements rather than "t" or "f." The "t" in braille consists of four dots and "f" has three; the visually impaired child could share this difference with his less bright friends and some cheating could occur without a suspicion on the part of the teacher. If the class members exchange papers to correct the test, the braille reading child could be asked to read his answers aloud. One caution should be made in using this technique—the less bright visually impaired child is placed in a position where everyone knows his test score. The teacher may therefore want to follow this procedure selectively. A further suggestion for test taking is to give the child his test orally during a free period. Tests may also be transcribed into braille by a volunteer or the special teacher and handed to the child when tests are distributed to the rest of the class. A wide variety of procedures are available and the regular teacher should select the one most appropriate to the situation.

The objective during the middle years should be to develop increasing independence in all areas: academic, mobility, self care, etc., in order to enable the child to enter high school well prepared to meet the competition of sighted children.

Secondary. The visually impaired child of normal intelligence can and should participate in a regular secondary program. The academically inclined student can profit from the experience of competing with sighted students before entering college; the nonacademic student often has a broader range of subjects available to

meet his special interests. For the latter student, however, a careful study of available nonacademic courses should be made and a high school should be selected which offers a broad range of subjects that will meet his particular needs. In general, participation in a regular secondary school program provides good preparation for living in the sighted adult world for both types.

After an initial orientation period, the visually impaired student should be expected to walk through the building by himself. The principal should encourage other students to let him be independent and to give help only when needed. In most cases, he will not need to use his cane inside the building once he masters the structure of the building. However, outside the building, the student should use his cane for his own protection and to enable him to move about independently. Ordinarily, guide dogs are not recommended for high school age students.

Academic subjects generally cause little difficulty and required modifications are minimal. In using the chalkboard, the teacher or a student should read what is written on the board to the visually impaired student either before, during, or after class. He should be required to take notes, submit assignments, and participate in class activities like any other student. He should be provided with the necessary reading materials either in a form which he can use on his own (braille, printed, or recorded), or he should be given help by people who can read to him. Student organizations are frequently willing and eager to function in this capacity. With these modifications, there should be few difficulties in having full participation in the program in most academic subjects.

Math and science may cause problems, however, because of the board work used in explanations, and the visual observation involved in experiments and demonstrations. Sometimes pairing the visually impaired student with another student who can explain what is happening may be all the assistance he requires. In other instances, it may be necessary to arrange for additional

tutoring to help him. In any case, assistance should be given early, so that he does not fall behind in his work.

For nonacademic subjects, such as physical education, homemaking, industrial arts, music, and art, the teachers should be encouraged to let the visually impaired student try as much as possible and not to excuse him merely on the basis of his disability. Often, surprising results can be obtained when the student is given an opportunity and is encouraged to try a new activity. Through such experiences, he will learn to develop his true capacities and realistically accept his limitations. For physical education and vocational subjects, rules of safety must be understood well by all students. If the high school provides a work experience program for nonacademic students, the visually impaired student should also be considered. The local vocational rehabilitation worker is usually available for assistance in such work placement and may also assist in supervision.

Vocational guidance and counseling are particularly important for the visually impaired adolescent. The regular school guidance personnel should work with the student and make a referral to the appropriate vocational rehabilitation agency early in his high school program, preferably at time of entrance. During the last two or three years of high school, the school guidance counselor and the rehabilitation counselor should work together with the student on formulating his vocational objectives and planning for his future. The student should know at the time of graduation what he is going to do next.

During the high school years, the visually impaired student may require the assistance of other professionals, and the principal should not hesitate to call on such persons as the need arises. The handicapped adolescent sometimes needs help to resolve the normal problems of adolescence which may be intensified by his disability. Realistic acceptance of the disability, the struggle to be independent against the reality of having a dependent kind of disability, developing an adequate self concept, and easing anxieties about acceptance by

the peer group, must be resolved by the adolescent and may require the assistance of someone outside the school, such as a social worker, a psychologist, or a psychiatrist.

Throughout the secondary school program, the visually impaired student should have an opportunity to find a future place for himself in a sighted society. To do this, he needs experiences in learning to be independent and to develop realistic expectations about his abilities. Such experiences can and should be provided during the high school years.

References

Alonso, Lou. The child with impaired vision. *NEA Journal*, 1967, 56, 42-43.

Barraga, N. *Increased visual behavior in low vision children.* New York, New York: American Foundation for the Blind, 1964.

Suggested Supplementary Readings

Cowen, E. L., et al. *Adjustment to visual disability in adolescence.* New York: American Foundation for the Blind, 1961.

The author reviews research and summarizes the result of several studies related to problems of visually impaired adolescents. This book is recommended for those working with adolescents and seeking some additional insight into their needs.

Moor, P. M. *A blind child, too, can go to nursery school.* New York: American Foundation for the Blind, 1962.

While this is directed toward the nursery school teacher, suggestions may be adapted and applied by teachers of all levels. It is recommended particularly for the techniques suggested to prepare the blind child and normal children for his entrance into school.

Pelone, A. J. *Helping the visually handicapped child in a regular class.* New York: Teachers College, Columbia University, 1957.

The author presents general suggestions for assisting partially seeing and blind children in a regular class, and specific curriculum adaptations are discussed. This book is recommended for teachers seeking more detailed information regarding points raised in this chapter.

7 The Visually Impaired Child with Other Disabilities

Thus far, the visually impaired child without other disabilities has been considered. Unfortunately, many have additional handicaps which complicate their educational programing and challenge the creativity of educators to plan appropriately for them. In general, the other disabilities should be evaluated in terms of their educational implications and in terms of the additional handicapping effects on the child's educational progress.

Some disabilities, such as epilepsy, diabetes, and orthopedic defects, exclusive of cerebral palsy, present no educational problems, but rather are management problems, primarily of the medical management type. Such multiply handicapped children can usually be handled within the regular program for the visually impaired. An exception may exist for severe orthopedic problems where the child is in a wheelchair or wears braces. This exception will be discussed below.

Speech problems may also be handled in the same way as for those found in sighted children, namely, by providing speech therapy on an itinerant basis. Correction of speech defects is extremely important for the visually impaired, since so much of their contact with the world is through oral communication, and hence it is essential that they have acceptable speech.

Minor deviations in the auditory, intellectual, and emotional areas can usually be accommodated within the regular program for the visually impaired. Major deviations frequently cannot be considered, however, and the question then arises concerning an appropriate educational placement. If the visually impaired child is viewed as one presenting educational materials prob-

lems, then the expectation would be that the multiply impaired child could be placed in the program appropriate to his other disability, i.e., in a class for the hard of hearing, retarded, emotionally disturbed, or cerebral palsied, and receive itinerant service from a specialist in the visually impaired. The success of such a placement would depend in large measure on the skills and ingenuity of both types of special educators, their knowledge and understanding of the other disability, and their cooperation and willingness to accept a challenge.

On a theoretical basis, the above type of placement would seem the most feasible. In actual practice, there may be some difficulties in effecting such an arrangement and some cogent reasons for not doing so. It is particularly important to evaluate the potentially dangerous aspects in placing a visually impaired child with any group of children of another disability. For example, careful attention should be given to the possibilities of physical injury to the visually impaired child, who would be unable to defend himself or to move quickly out of the way of another child aggressively acting out his problems, if both were in a room for the emotionally disturbed; conversely, the visually impaired child using crutches or in a wheelchair may be a source of potential injury to other visually impaired children in a special class for the blind; a blind child in a class for the deaf may find the maze of wires from auditory training units a distinct hazard to his getting about. Consequently, all aspects of both child and classmates must be examined prior to making decisions regarding placement.

The presence of severe defects accompanying the visual impairment may require placement in a special program for children with multiple defects. Many states are now providing programs within an institutional or residential setting for such children. In addition, more and more public schools are organizing such programs on a day school basis. A variety of programs are necessary to meet the diverse needs of the multiply impaired.

In the last analysis, all relevant factors must be considered in planning for the visually impaired, with or

without additional disabilities. Educators should look at the child, and his family, evaluate the child's individual needs, and plan appropriately with the family to meet his needs.

Suggested Supplementary Readings

Cruickshank, W. M., and Johnson, G. O. (Editors), *Education of exceptional children and youth.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967.

Each chapter in this text is concerned with the educational problems of the various categories of handicapped children and is recommended for those seeking more information about any disability area on an introductory level.

Wolf, J. M. *The blind child with concomitant disabilities.* New York: American Foundation for the Blind, 1967.

This monograph summarizes a study of the extent of mental retardation in residential schools for the blind. It is recommended for the research minded person interested in this aspect of multiple disability.

8 Available Resources

Numerous resources are available to educators working with visually impaired children. Frequently, a telephone call or letter of inquiry will assist in the solution of some pressing problem, but all too often the appropriate resource is unknown and the problem remains. This chapter suggests some general resources usually available on the local and state level and guidelines for seeking them out. Since both the patterns of administrative organization and the availability of services vary, principals may need to seek out the specific resource in his state and community. A section on national resources is also included.

Local

Most communities sponsoring classes or itinerant services for the visually impaired have an administrative office for special education and/or special services. Sometimes this office functions at the intermediate district or county level. While principals and teachers are usually aware of the involvement of such an office in placing a child, all too often they do not tap this resource for other services of an ongoing nature. If a request for consultant help cannot be fulfilled, this office usually has the resources to find such help. Frequently, assistance is available within the school district from curriculum coordinators, special subject matter consultants, and similar personnel who are increasingly responding to requests from special educators. Involvement of these school personnel in special programs also assists in making special education a part of and a responsibility of general education.

The teacher education programs of nearby universities represent another possible resource. With increasing in-

terest in special education and in handicapped children, colleges and universities frequently have one or more staff members who are knowledgeable in this field. Should such professionals not have competency concerning visual impairments, they do have access to potential sources of information.

Principals should not overlook the numerous community agencies available for referral. Social work and social welfare services may be obtained from such agencies as Family Service and Child Guidance Clinics. A telephone call to any one such social agency will usually result in a referral to the most appropriate one for the service needed. For health and medical problems, the local or county public health nurse can render invaluable assistance. Service clubs, particularly the Lions Club, will often provide financial assistance for securing needed services for the visually impaired child, such as an eye examination, obtaining glasses, or sending him to camp. These service clubs are often in a position to provide the extras not included in the school district budget, and educators should not hesitate to call on them for such financial assistance.

Many local resources go untapped because requests are not made for their services. Principals are frequently in a position to know of such resources and should utilize them to give assistance to the visually impaired child.

State

All state educational agencies employ one or more persons with responsibility in special education. A request to the state department of education will usually result in consultant service, as well as printed material concerning the special educational needs of the visually impaired. As more federal funds are made available to state educational agencies for strengthening their special education programs, such services to local schools will increase. Requests from principals for services will help keep the needs of the visually impaired paramount and demonstrate to the state agencies the necessity of providing these specialized services. Principals should also not overlook the many other services usually available from

state educational agencies, including materials and consultant services on curriculum problems.

As the visually impaired student reaches his secondary school years, he will usually require some vocational rehabilitation. Each state has a vocational rehabilitation office, and an inquiry to that office should provide information regarding eligibility for service and the name and address of the person to whom the student should be referred. In most states, rehabilitation services are provided through regional offices which may or may not be located in the particular community. Hence, the principal may not always be aware of the service and will need to contact the state office for additional information.

The facilities of the state residential school should not be overlooked. A visit to the school will often provide much information about the visually impaired for both principal and regular teachers. Some residential schools are providing to local day school programs such services as consultation and loan of books and other instructional materials. Principals should investigate and utilize all such services provided by the residential school serving their geographic area.

National

Through the sponsorship of the United States Office of Education, a network of instructional materials centers has been established to provide materials for all types of handicapped children. Most of these centers are new and are not as yet providing a full range of services. However, principals should make their needs known to the center serving their state because the center can help even if it cannot answer the specific request, since its director may refer the request to another center which can. A list of the centers with their addresses and the states served may be found in Appendix A.

There are numerous national organizations which provide a variety of services and which should be of help to principals seeking additional information or assistance. The addresses of the organizations described below may be found in Appendix B.

The Bureau for Handicapped Children and Youth in the United States Office of Education administers a variety of federal programs, including grants to state educational agencies and colleges and universities for the training of professional personnel, research and demonstration, captioned films for the deaf, the instructional materials centers, and Title VI projects. Inquiries concerning any aspect related to the education of the visually impaired may be directed to the Bureau for referral to the appropriate person.

Two professional organizations specific to the visually impaired may also be of help. The American Association of Instructors of the Blind is an organization for teachers, administrators, houseparents, and parents interested in the visually impaired. Its journal, *The International Journal for the Education of the Blind*, publishes articles of interest to its membership. It also conducts workshops and institutes. The American Association of Workers for the Blind is an organization of all types of professional workers, including teachers, working on behalf of the blind.

The Council for Exceptional Children is a professional organization open to those interested in all types of exceptional children. Its journal, *Exceptional Children*, publishes a variety of professional articles related to the handicapped. CEC's Division for the Visually Handicapped is open to CEC members specifically interested in the visually impaired. One of CEC's special projects is the operation of the Clearinghouse on Exceptional Children. This information center is part of the nationwide network of Educational Resources Information Centers (ERIC) of the US Office of Education. Reports of research, administrative and program guides, and other materials relevant to the education of handicapped and gifted children are identified, cataloged, and abstracted for computer storage and retrieval. Inquiries concerning services and procedures for obtaining copies of abstracts or complete documents in microfiche or paper copy should be addressed to the Clearinghouse on Exceptional Children, at the headquarters address of CEC.

The American Foundation for the Blind is a multifaceted agency providing among their activities consultant services where none exist at the local level, publishing a variety of materials, including the *Outlook for the Blind*, which is of special interest to all types of professionals working with the blind, as well as stimulating research. A list of their publications may be obtained on request.

The American Printing House for the Blind distributes braille and large print books and materials for use of school children of all ages. These materials are distributed to residential and day programs through federal subsidy. In addition, the Printing House has a research division and a nonregional instructional materials cen-
professionals working with the blind, as well as stimulating research. A list of their publications may be obtained on request.

The Library of Congress Division for the Blind and Handicapped can supply information concerning the nearest regional library for the blind, where books, tapes, machines, etc. can be obtained. The Division also conducts a correspondence course for braille transcribers, and it will supply a list of certified transcribers working in any state.

The National Society for the Prevention of Blindness is an organization composed of professionals from all disciplines interested in visual impairments. It includes sponsoring institutes, conferences, and conducting research, among its many activities. Its journal, *The Sight-Saving Review*, publishes articles of interest to educators. A list of its publications may be obtained on request.

The above resources probably represent the major ones that should be of help to principals in providing for the needs of visually impaired children in their schools.

Appendix A

United States Office of Education Sponsored Regional Special Education Instructional Materials Centers

Center and Director	*States Served*
Dr. Robert McIntyre, Director University of Southern California 17 Chester Place Los Angeles, California 90007 Telephone: 213/749-3121	California Nevada Arizona
Dr. William Reid, Director Colorado State College Greeley, Colorado 80631 Telephone: 303/351-2681	Colorado Montana Wyoming New Mexico Utah
Dr. Marvin Gold, Director University of South Florida Engineering Building Tampa, Florida 33620 Telephone: 813/988-4131	Florida Alabama Georgia Mississippi South Carolina Puerto Rico Virgin Islands
Miss Gloria Calovini, Director Educational Materials Coordinating Unit for Visually Handicapped Children and Youth Superintendent of Public Instruction 410 S. Michigan Avenue Chicago, Illinois 60615 Telephone: 312/427-3387	Illinois
Mrs. Lenore Powell, Director Department of Special Education 726 South College Street Springfield, Illinois 62706 Telephone: 217/525-2436	Illinois

Dr. Robert W. Ridgeway, Director University of Kansas Lawrence, Kansas 66044 Telephone: 913/Un 4-3034	North Dakota South Dakota Nebraska Iowa Missouri Kansas
Dr. A. Edward Blackhurst, Director University of Kentucky 641 South Limestone Street Lexington, Kentucky 40506 Telephone: 606/258-9000, Ext. 2764	Kentucky Tennessee North Carolina West Virginia
Mr. Carl W. Lappin, Director American Printing House for the Blind 1839 Frankfort Avenue Louisville, Kentucky 40206 Telephone: 502/895-2405, Ext. 20	Nonregional
Dr. Donald R. Maietta and Dr. Harold Ruvin, Co-Directors Boston University 765 Commonwealth Avenue Boston, Massachusetts 02215 Telephone: 617/353-3266	New Hampshire Vermont Massachusetts Rhode Island Maine Connecticut
Mrs. Lou Alonso, Director Michigan State University 216 Erickson Hall East Lansing, Michigan 48823 Telephone: 517/353-7810	Michigan Indiana Ohio
Mr. Raphael Simches, Director Bureau for Physically Handicapped Children Albany, New York 12201 Telephone: 518/474-3995	New York
Dr. Wayne D. Lance, Director University of Oregon 1612 Columbia Street Eugene, Oregon 97403 Telephone: 503/342-1411, Ext. 2021	Oregon Idaho Washington Alaska Hawaii Guam
Dr. William G. Wolfe and Dr. Claude Marks, Directors University of Texas 304 West 15th Street Austin, Texas 78701 Telephone: 512/GR 1-3146	Texas Louisiana Arkansas Oklahoma

Dr. Raymond S. Cottrell, Director
The George Washington University
Department of Special Education
820 20th Street, N.W.
Washington, D.C. 20006
Telephone: 202/676-7200

Pennsylvania
Maryland
Delaware
New Jersey
Washington, D.C.
Virginia

Dr. LeRoy Aserlind, Director
University of Wisconsin
2570 University Avenue
Madison, Wisconsin 53706
Telephone: 608/262-4910

Wisconsin
Minnesota

Appendix B

Selected List of Organizations

Bureau of Education for the Handicapped
U.S. Office of Education
7th and D Streets, S.W.
Washington, D.C. 20202

American Association of Instructors of the Blind, Inc.
711 Fourteenth St. N.W.
Washington, D.C. 20005

American Association of Workers for the Blind, Inc.
1511 K. St. N.W.
Washington, D.C. 20005

The Council for Exceptional Children
1201 Sixteenth St. N.W.
Washington, D.C. 20036

The American Foundation for the Blind, Inc.
15 West 16th St.
New York, New York 10011

American Printing House for the Blind
1839 Frankfort Ave.
Louisville, Kentucky 40206

L.C. Division for the Blind and Physically Handicapped
Library of Congress
Washington, D.C. 20542

National Society for the Prevention of Blindness, Inc.
16 East 40th St.
New York, New York 10016